

REMARKS

The last Office Action of December 21, 2007 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 11-21 are pending in the application. No claims have been withdrawn from further consideration. No claims have been amended. No claims have been canceled. No claims have been added. A total of 11 claims is now on file. The specification was amended in that the Abstract of the Disclosure was amended to conform it to U.S. requirements. No fee is due.

Claims 11-18 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 6,300,595 to Williams ("Williams").

Claims 19-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Williams in view of U.S. Pat. No.: 6,573,890 to Lengyel ("Lengyel").

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Williams in view of Lengyel as applied to claim 19 and in view of U.S. Pat. No.: 6,614,446 to Van Overveld ("Overveld").

OBJECTION TO THE SPECIFICATION

The Examiner required amendment to the Abstract of the Disclosure which applicant has provided and supplied a clean copy of the Abstract on a separate sheet

REJECTION OF CLAIMS 11-18 UNDER 35 U.S.C. §102(b) AS BEING ANTICIPATED BY WILLIAMS

The rejection under 35 U.S.C. 102(b) is respectfully traversed.

Applicant has amended claim 1 and 19 in order to recite the arbitrary shaped three-dimensional surface in the body of the claim. These amendments are cosmetic in nature and do not change the scope of the claim such that the amendment does not trigger estoppel.

Williams teaches a process to engrave a three dimensional picture with a laser into a two dimensional surface. The workpiece is divided into work levels where the work surfaces become gradually smaller toward the interior of the workpiece. Each work level is then worked on with a laser beam at a constant depth, such that a three-dimensional picture will result.

The Examiner states that Williams teaches approximating the surface of the workpiece through a plurality of polygons in the form of superposed networks as set forth in applicant's claim as element 1 in the process for the multilayer removal of material from a workpiece having an arbitrary shaped multi-dimensional surface, citing Williams Col. 1, lines 41-45. The lines as cited however do not reveal polygons in a polygon network as in element 1 since in Williams a computer program converts lines on each of the artwork pieces into control signals which guides the laser beam along each workpiece in correspondence to the provided artwork piece.

Claim 11 next requires that determining work areas to be machined on the three-dimensional surface of the work piece is carried out through the focal cuboid of a removal agent. The Examiner has cited col. 1, lines 46 to 49 as anticipating this element. However, described there is the use of a laser with which a plurality of artwork pieces are engraved into the work piece. That citation does not anticipate that particular element in claim 11.

Claim 11 next recites the element that each polygon of a polygon network is assigned to a work area. The Examiner cites col.1, lines 49 to 51 where it is described that each of the artwork pieces has lines which are then translated by the laser into paths for removal of material by the laser. The referred to lines do not anticipate the element of claim 11.

With respect to claims 12-18, these claims depend on claim 11 and therefore distinguish over the Williams reference in the same manner as claim 11. However, these claims also set forth separate feature that are in and of themselves patentable over the prior art.

Claim 13 sets forth that the surface structure is described by at least one grey level bitmap, whereas col. 4, lines 5-10 recites that the art work pieces are then converted into lined artwork, recognized by the laser as software as leaser paths. And the plurality of artwork forms a composite of the design. This is very different from the recitation in the claim since the artwork is composed of lines in the various levels, which is also seen in the Figures of Williams.

Furthermore, claim 17 requires that each polygon is associated with its own polygon network. To this the examiner cites Williams col. 4, lines 17 to 22, where it is stated that the laser reads the lines of each art work piece, which lines are converted into control signals and removal takes place according to the lines. It is not seen that the line removal in each art work piece anticipates the pointwise removal from the various polygon work areas.

With respect to claim 18, the Examiner cites col. 4, lines 10 to 17 in Williams. Claim 18 recites that each polygon in each layer does not have a border portion in common with a previously manipulated border polygon. In the cited lines there is no mention of such border portions.

While, the Examiner has cited the Williams reference as anticipating the claims, applicant has shown that the cited portions do not anticipate the elements of claim 11 nor the dependent claims as discussed. For that reason, applicant believes that claims 11-18 are not anticipated by the Williams reference.

Withdrawal of the rejection of claims 11-18 under 35 U.S.C. §102(b) is thus respectfully requested.

REJECTION OF CLAIMS 19 AND 20 UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER WILLIAMS IN VIEW OF LENGYEL

The Examiner has rejected claims 19 and 20 as unpatentable Williams in view of Lengyel.

The Examiner reiterates various elements of claim 19 as in claim 11 and compares them to Williams, for simplicity's sake applicant hereby incorporates by reference those portions the examiner cites that applicant already discussed supra. Where the Examiner states that *the polygon networks such that the sum of the work areas corresponded to the surface of the workpiece and the surface of the workpiece is approximated through superposing second polygon networks having a plurality of polygons offset to each other*, the applicant traverses the Examiner's determination that those are found in the respectively cited lines in Williams. Williams describes an engraving technique that is different from the claimed process where the material is removed from a three-dimensional surface of any shape.

The Examiner does concede that Williams fails to teach providing one or more master texture bitmaps defining two-dimensional spaces; wherein three-dimensional corners of the polygons of the first polygon network correspond to two-dimensional image spots in one or more of the master texture bitmap thereby translating the polygons into the two-dimensional space of the master texture bitmap, but cites the Lengyel as supplying such. Applicant takes the position that the citation is out of context and has nothing to do with the process as claimed. The Lengyel reference as far as could be discerned is directed to computer animation where despite the appearance of three dimensional objects the animation is always in a two dimensional plane and therefore has nothing to do with the removal of material in a workpiece of any shape as is the case here. Computer animation is a different field not related to the processes here. The combination of the two references does not render claim 19 obvious. The Examiner has not made a *prima facie* case why the Lengyel reference would be consulted and applicant contends there is no motivation or suggestion why they would be combinable if from disparate fields. Applicant points out the KSR case, in which the teaching, motivation, suggestion test (TSM test) was extensively

discussed and while the court held that the TSM test cannot be rigidly applied, the court did not dismiss the test as never applicable. In the present case, it is clear that the person of ordinary skill in the art at the time would not look to such disparate fields.

For the reasons set forth above, it is applicant's contention that neither Williams nor Lengyel, nor a combination thereof teaches or suggests the features of the present invention, as recited in claim 19.

Claims 20 and 21 which depend from claim 19 and therefore contain all the limitations thereof, patentably distinguishes over the applied prior art in the same manner as claim 19.

The Examiner has cited separately a rejection of claim 21 as being unpatentable over Williams in view of Lengyel as applied to claim 19 and in view of Van Overveld.

The Examiner concedes that Williams and Lengyel do not teach that the brightness values are being computed back to the master texture bitmap.

It is significant in light of the Examiner's rejection of the claims based on Williams and Lengyel that these references do not teach this aspect since the Examiner has determined that these references either anticipate the claimed invention or render it obvious. If the examiner determined that, one would expect it unnecessary that yet a further reference need be cited for that feature and is an indication that Williams and Lengyel do not render the claimed invention obvious or that Williams anticipates it.

In any event, the citation of von Overveld suffers from hindsight. The Examiner searches for the feature and assembles them so that they fit the claimed invention. In re Gorman, 933 F.2d 982. There is no teaching or suggestion supporting the combination as proposed by the Examiner. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Gordon, 733 F.2d at 902.

Withdrawal of the rejection of claims 19, 20 and 21 under 35 U.S.C. §103(a) and allowance thereof are thus respectfully requested.

CONCLUSION

Applicant believes that when reconsidering the claims in the light of the above comments, the Examiner will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

None of the references discloses a process having the features as recited in the claims.

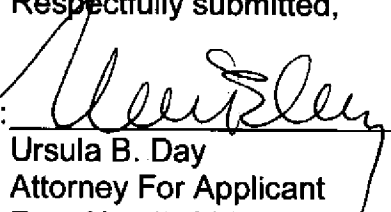
In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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